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| APPLICATION NO.  | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|--|-------------|----------------------|---------------------|------------------|
| 10/798,847   | 03/12/2004  | James Dalton         | COCH-0005-1         | 6678             |
| 22506  | 7590        | 03/15/2006           | EXAMINER            |                  |
| JAGTIANI + GUTTAG<br>10363-A DEMOCRACY LANE<br>FAIRFAX, VA 22030 |             |                      | SMITH, STEPHANIE R  |                  |
|  |             |                      | ART UNIT            | PAPER NUMBER     |
|  |             |                      | 3762                |                  |
| DATE MAILED: 03/15/2006  |             |                      |                     |                  |

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

10/798,847

Applicant(s)

DALTON ET AL.

Examiner

Stephanie Smith

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 12 January 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 18-26 and 29-40 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 18-26 and 29-40 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 12 January 2006 and 26 July 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
- 1) ☒ Certified copies of the priority documents have been received.
  - 2) ☒ Certified copies of the priority documents have been received in Application No. 10/798847.
  - 3) ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_

## **DETAILED ACTION**

### ***Priority***

1. Applicant is advised of possible benefits under 35 U.S.C. 119(a)-(d), wherein an application for patent filed in the United States may be entitled to the benefit of the filing date of a prior application filed in a foreign country.

Acknowledgment is made of applicant's claim for foreign priority under 35 U.S.C. 119(a)-(d). The certified copy has been filed in parent Application No. 10/798,847, filed on March 12, 2004.

Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

### ***Election/Restrictions***

2. Applicant's election with traverse of a cochlear prosthesis in the reply filed on January 12, 2006 is acknowledged. The traversal is on the ground(s) that the examiner failed to contend that the claims are directed to independent or distinct inventions and that the examiner failed to provide reason for restricting the claims. This is not found persuasive because the applicant has cancelled some of the claims in question.

The requirement is still deemed proper and is therefore made FINAL.

### ***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

3. Claims 18, 29, and 38-40 are rejected under 35 U.S.C. 102(e) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Berrang et al.

Referring to claims 18 and 29, Berrang et al. teach a cochlear prosthesis (see figure 3), but do not explicitly teach a control unit, or a stimulator unit, but do teach low profile electronics (see page 4, paragraph 55 and figure 1), and contact pads and conductor wires connected to the housing that leads to any sensing or stimulating elements implanted in the body (see page 3, paragraph 53 and figures 1 and 20). Therefore, it is inherent that there is a control unit and stimulator unit contained within the housing that processes sensed events and sends stimulation since the system is used as a cochlear implant/stimulator (see paragraphs 4 and 53). The enclosure contains an aperture that contains a non-conducting insert with a plurality of passageways that are hermetically sealed and wired to provide stimulation therapy (see page 3, paragraphs 48-51 and 53). With reference to claim 38, the conductive pathways in the non-conductive insert in the aperture are connected to conductor wires for sensing and stimulation elements as described above. It is not explicitly stated that the wires are connected to electrode leads. However, it is well known in the art that electrode leads are used to sense events and deliver therapy. Further, the conductive pathways are connected to wires within the casing that connect to the low profile

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electronics (see figure 1). Regarding claim 39, Berrang et al. teach a second substrate with conductive regions that are aligned with the first conductive regions (see figures 5-7). Referring to claim 40, the casing is attached to the substrate, and on the opposite side, the substrate is attached to an FEP layer that is connected to the casing (see figure 20 and page 6, paragraph 75).

In the alternative, Berrang et al. teach the cochlear prosthesis as described above, do not explicitly teach a control unit and stimulator located within the housing. However, it is well known in the art to include a control unit and stimulator in cochlear prostheses to control the stimulation to allow the patient to hear and to locate them within the housing in order to provide protection to the control unit and stimulator from the outside environment. Therefore, it would have been obvious to one skilled in the art at the time the invention was made to use a control unit and stimulator and to place them inside the housing in order to control the stimulation to the patient to allow the patient to hear and to protect the unit and stimulator from the outside environment.

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of

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the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

5. Claims 19, 23, and 30 are rejected under 35 U.S.C. 103(a) as being unpatentable over Berrang et al in view of Kuzma (U.S. 5046242). Berrang et al. teach the nonconductive substrate hermetically sealed within an aperture and the hermetic feedthroughs (see figure 1 and page 3, paragraphs 48-51). Berrang et al. do not teach the conductive regions that extend transversely and are electrically isolated from one another, depression, second conductive region, and casing extension, respectively. Kuzma does teach the conductive regions that extend transversely and are electrically isolated from one another (see figure 3 and column 4, lines 30-50). With regards to claim 23, Berrang et al. teach electrical contacts (see figures 7 and 16 and page 5, paragraphs 66 and 73). With regards to claims 19 and 30, Kuzma teaches that this allows a plurality of feedthroughs to be formed with a minimum of effort and that the technique allows for consistent perfect hermetic seals to be achieved (see column 5, lines 26-33). Therefore, it would have been obvious to one skilled in the art at the time the invention was disclosed to combine the prosthesis taught by Berrang et al. with the plurality of conductive pathways as taught by Kuzma in order to achieve a perfect hermetic seal and a plurality of feedthroughs.

6. Claims 20-22 and 31-32 are rejected under 35 U.S.C. 103(a) as being unpatentable over Berrang et al. in view of Kuzma as applied to claims 19 and 30 above, and further in view of Chow et al (U.S. 6230057). Berrang et al. in view of Kuzma teach the device described above, but do not teach that the substrate is a semiconductor composed of silicon that is an n-type or p-type doped material. Chow et al. teach an n-type and p-type substrate of a silicon wafer (see column 11, lines 17-30). It would be obvious to use a semiconductor because of its resistive properties, and silicon is a common semiconductor material. Further, n-type doping causes the semiconductor to have an extra electron while p-type doping causes an electron to be missing. It would be obvious that the conductive regions would be n-type or p-type doped so that the conductive regions do not carry a positive or negative charge. It is noted that while the semiconductor is implanted in the retina and not the cochlea, the references are analogous art because both semiconductors are implanted within the body. Therefore, it would have been obvious to one skilled in the art at the time the invention was made to combine the device taught by Berrang et al. in view of Kuzma with the n-type or p-typed doped silicon semiconductor because of its resistivity.

7. Claims 24-26 and 33 are rejected under 35 U.S.C. 103(a) as being unpatentable over Berrang et al. in view of Kuzma as applied to claim 23 above, and further in view of Stevenson et al (U.S. 2001/0050837). Berrang et al. in view of Kuzma teach the device described above, but do not teach the terminal, material, or wire, respectively. Stevenson et al. teaches the terminal (see Abstract), gold (see page 4, paragraph 32), and wire, respectively (see page 1, paragraph 3). Stevenson et al. further teach that

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feedthrough terminals are well known for connecting electrical signals through the housing or case of an electronic instrument (see page 1, paragraph 3); gold is a desirable material to be sputtered over the terminal in medical implant devices (see page 4, paragraph 32); and that it is typical to connect feedthrough terminals to wires (see page 1, paragraph 3). Regarding claim 33, Kuzma teaches the wire being located in a groove in the conductive region (see column 5, lines 47-56 and column 8, lines 45-46). This type of configuration allows for occasional replacement of the case (see column 5, lines 44-47). Therefore, it would have been obvious to one skilled in the art at the time the invention was made to combine the device taught by Berrang et al. in view of Kuzma with the terminal, gold, wire, and groove insert as described above because the terminal, gold, and wire are well known in the art and the groove inserts allow the casing to be occasionally replaced.

8. Claims 34-36 are rejected under 35 U.S.C. 103(a) as being unpatentable over Berrang et al. in view of Kuzma and Stevenson et al. as applied to claim 26 above, and further in view of Furuyama et al (U.S. 5412748). Berrang et al. in view of Kuzma and Stevenson et al. teach the device described above, but do not teach that a portion of the wire is located within a depression in the substrate. Furuyama et al. do teach that a wire that has a portion secured within a depression in the substrate and that this allows the wiring to be protected from other elements (see figure 11B and column 15, lines 13-18). It is noted that while Furuyama et al. do not teach mechanical tension or cold welding, the wiring produced by Furuyama et al. is the same product as the product produced by the Applicant using mechanical tension or cold welding (see MPEP 2113).



Therefore, it would have been obvious to one skilled in the art at the time the invention was disclosed to combine the cochlear prosthesis as taught by Berrang et al. in view of Kuzma and Stevenson et al. with the wiring located within the groove in order to protect the wiring from damage.

9. Claim 37 is rejected under 35 U.S.C. 103(a) as being unpatentable over Berrang et al. in view of Kuzma as applied to claim 23 above, and further in view of Dickey et al (U.S. 6501170). Berrang et al. in view of Kuzma teach the device described above, but do not teach a ball grid array. Dickey et al. does teach a ball grid array (see column 4, lines 25-29). Dickey et al. further teach that a ball grid attachment is refluxed for simultaneous attachment and electrical communication (see column 1, lines 19-23).

Therefore, it would have been obvious to one skilled in the art at the time the invention was made to combine the device taught by Berrang et al. in view of Kuzma with the ball grid array in order to have simultaneous attachment and electrical connection.

### ***Conclusion***

10. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

U.S. 6778040 to Kim discloses a feed-through filter that has a substrate and terminal through holes that pass through the substrate. Conductive regions are formed around the terminals.

U.S. 20030233133 to Greenberg et al. teaches a flexible circuit mounted on a substrate.

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U.S. 6321126 to Kuzma discloses an implantable connector that contains electrical contacts and hermetic feed through terminals.

U.S. 2004/0147992 to Bluger et al. discloses an implantable medical assembly with at least one electrode and at least one undulated wire connected to the electrode.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Stephanie Smith whose telephone number is 571-272-2834. The examiner can normally be reached on Monday-Friday between 7:30 am-4:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Angela Sykes can be reached on 571-272-4955. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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SRS

GEORGE R. EVANISKO  
PRIMARY EXAMINER

3/13/6